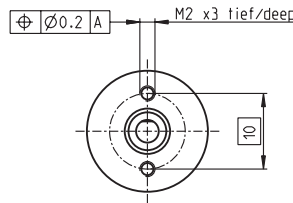
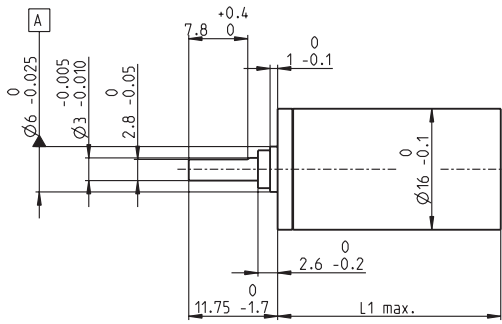


# Planetary Gearhead GP 16 A $\varnothing 16$ mm, 0.1–0.3 Nm



M 1:1

## Technical Data

|                                       |                           |
|---------------------------------------|---------------------------|
| Planetary Gearhead                    | straight teeth            |
| Output shaft                          | stainless steel, hardened |
| Bearing at output                     | sleeve bearing            |
| Radial play, 6 mm from flange         | max. 0.06 mm              |
| Axial play                            | 0.02–0.10 mm              |
| Max. permissible axial load           | 8 N                       |
| Max. permissible force for press fits | 100 N                     |
| Sense of rotation, drive to output    | =                         |
| Recommended input speed               | < 8000 rpm                |
| Recommended temperature range         | -15...+100°C              |
| Extended range as option              | -40...+100°C              |
| Number of stages                      | 1 2 3 4 5                 |
| Max. radial load, 6 mm from flange    | 8 N 12 N 16 N 20 N 20 N   |

maxon gear

- Stock program
- Standard program
- Special program (on request)

## Article Numbers

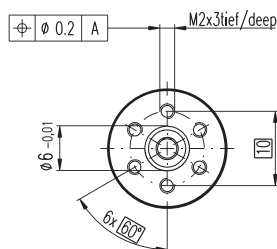
|  | 110321                | 110322             | 110323                | 118186              | 110324                   | 134782                 | 110325                     | 134785                   |
|--|-----------------------|--------------------|-----------------------|---------------------|--------------------------|------------------------|----------------------------|--------------------------|
| <b>Gearhead Data</b>                               |                       |                    |                       |                     |                          |                        |                            |                          |
| 1 Reduction  | 4.4 : 1               | 19 : 1             | 84 : 1                | 157 : 1             | 370 : 1                  | 690 : 1                | 1621 : 1                   | 3027 : 1                 |
| 2 Reduction absolute                               | $\frac{57}{13}$       | $\frac{3249}{169}$ | $\frac{185193}{2197}$ | $\frac{19683}{125}$ | $\frac{10556001}{28561}$ | $\frac{1121931}{1625}$ | $\frac{601692057}{371293}$ | $\frac{63950067}{21125}$ |
| 3 Max. motor shaft diameter                        | 2 mm                  | 2 mm               | 2 mm                  | 1.5 mm              | 2 mm                     | 2 mm                   | 2 mm                       | 2 mm                     |
| <b>Article Numbers</b>                             | 118184                | 134777             | 134778                |                     | 134780                   | 118187                 | 134783                     | 134786                   |
| 1 Reduction  | 5.4 : 1               | 24 : 1             | 104 : 1               |                     | 455 : 1                  | 850 : 1                | 1996 : 1                   | 3728 : 1                 |
| 2 Reduction absolute                               | $\frac{27}{5}$        | $\frac{1539}{65}$  | $\frac{87723}{845}$   |                     | $\frac{5000211}{10985}$  | $\frac{531441}{625}$   | $\frac{285012027}{142805}$ | $\frac{30292137}{8125}$  |
| 3 Max. motor shaft diameter                        | 1.5 mm                | 2 mm               | 2 mm                  |                     | 2 mm                     | 1.5 mm                 | 2 mm                       | 2 mm                     |
| <b>Article Numbers</b>                             |                       | 118185             | 134779                |                     | 134781                   |                        | 134784                     | 118188                   |
| 1 Reduction  |                       | 29 : 1             | 128 : 1               |                     | 561 : 1                  |                        | 2458 : 1                   | 4592 : 1                 |
| 2 Reduction absolute                               |                       | $\frac{729}{25}$   | $\frac{41553}{325}$   |                     | $\frac{2368521}{4225}$   |                        | $\frac{135005697}{54925}$  | $\frac{14348907}{3125}$  |
| 3 Max. motor shaft diameter                        |                       | 1.5 mm             | 2 mm                  |                     | 2 mm                     |                        | 2 mm                       | 1.5 mm                   |
| 4 Number of stages                                 | 1                     | 2                  | 3                     | 3                   | 4                        | 4                      | 5                          | 5                        |
| 5 Max. continuous torque                           | Nm 0.10               | 0.15               | 0.20                  | 0.20                | 0.25                     | 0.25                   | 0.30                       | 0.30                     |
| 6 Intermittently permissible torque at gear output | Nm 0.150              | 0.225              | 0.300                 | 0.300               | 0.375                    | 0.375                  | 0.450                      | 0.450                    |
| 7 Max. efficiency                                  | % 90                  | 81                 | 73                    | 73                  | 65                       | 65                     | 59                         | 59                       |
| 8 Weight   | g 20                  | 23                 | 27                    | 27                  | 31                       | 31                     | 35                         | 35                       |
| 9 Average backlash no load                         | " 1.4                 | 1.6                | 2.0                   | 2.0                 | 2.4                      | 2.4                    | 3.0                        | 3.0                      |
| 10 Mass inertia                                    | gcm <sup>2</sup> 0.07 | 0.05               | 0.05                  | 0.04                | 0.05                     | 0.05                   | 0.05                       | 0.05                     |
| 11 Gearhead length L1                              | mm 15.5               | 19.1               | 22.7                  | 22.7                | 26.3                     | 26.3                   | 29.9                       | 29.9                     |



## maxon Modular System

| + Motor           | Page    | + Sensor/Brake | Page    | Overall length [mm] = Motor length + gearhead length + (sensor/brake) + assembly parts |      |      |      |      |      |      |      |
|-------------------|---------|----------------|---------|--|------|------|------|------|------|------|------|
| RE 16, 2 W        | 72      |                |         | 37.9   | 41.5 | 45.1 | 45.1 | 48.7 | 48.7 | 52.3 | 52.3 |
| RE 16, 2 W        | 72      | MR             | 268/270 | 43.6   | 47.2 | 50.8 | 50.8 | 54.4 | 54.4 | 58.0 | 58.0 |
| RE 16, 3.2 W      | 73/74   |                |         | 56.0   | 59.6 | 63.2 | 63.2 | 66.8 | 66.8 | 70.4 | 70.4 |
| RE 16, 3.2 W      | 74      | MR             | 268/270 | 61.0   | 64.6 | 68.2 | 68.2 | 71.8 | 71.8 | 75.4 | 75.4 |
| RE 16, 3.2 W      | 74      | MEnc 13        | 284     | 62.1   | 65.7 | 69.3 | 69.3 | 72.9 | 72.9 | 76.5 | 76.5 |
| RE 16, 4.5 W      | 75/76   |                |         | 59.0   | 62.6 | 66.2 | 66.2 | 69.8 | 69.8 | 73.4 | 73.4 |
| RE 16, 4.5 W      | 76      | MR             | 268/270 | 64.0   | 67.6 | 71.2 | 71.2 | 74.8 | 74.8 | 78.4 | 78.4 |
| RE 16, 4.5 W      | 76      | MEnc 13        | 284     | 65.1   | 68.7 | 72.3 | 72.3 | 75.9 | 75.9 | 79.5 | 79.5 |
| A-max 16          | 89-92   |                |         | 41.0   | 44.6 | 48.2 | 48.2 | 51.8 | 51.8 | 55.4 | 55.4 |
| A-max 16          | 90/92   | MR             | 268/270 | 46.0   | 49.6 | 53.2 | 53.2 | 56.8 | 56.8 | 60.4 | 60.4 |
| A-max 16          | 90/92   | MEnc 13        | 284     | 49.1   | 52.7 | 56.3 | 56.3 | 59.9 | 59.9 | 63.5 | 63.5 |
| RE-max 17         | 119-122 |                |         | 41.0   | 44.6 | 48.2 | 48.2 | 51.8 | 51.8 | 55.4 | 55.4 |
| RE-max 17         | 120/122 | MR             | 268/270 | 46.0   | 49.6 | 53.2 | 53.2 | 56.8 | 56.8 | 60.4 | 60.4 |
| EC 16, 30 W       | 145     |                |         | 55.6   | 59.2 | 62.8 | 62.8 | 66.4 | 66.4 | 70.0 | 70.0 |
| EC 16, 30 W       | 145     | MR             | 271     | 66.3   | 69.9 | 73.5 | 73.5 | 77.1 | 77.1 | 80.6 | 80.6 |
| EC-max 16, 5 W    | 163     |                |         | 39.6   | 43.2 | 46.8 | 46.8 | 50.4 | 50.4 | 54.0 | 54.0 |
| EC-max 16, 5 W    | 163     | MR             | 271     | 46.9   | 50.5 | 54.1 | 54.1 | 57.7 | 57.7 | 61.3 | 61.3 |
| EC-max 16, 2-wire | 164     |                |         | 49.1   | 52.7 | 56.3 | 56.3 | 59.9 | 59.9 | 63.5 | 63.5 |

## Option Ball Bearing



## Article Numbers

|         |        |          |        |
|---------|--------|----------|--------|
| 4.4 : 1 | 138333 | 455 : 1  | 138343 |
| 5.4 : 1 | 138334 | 561 : 1  | 138344 |
| 19 : 1  | 138335 | 690 : 1  | 138345 |
| 24 : 1  | 138336 | 850 : 1  | 138346 |
| 29 : 1  | 138337 | 1621 : 1 | 138347 |
| 84 : 1  | 138338 | 1996 : 1 | 138348 |
| 104 : 1 | 138339 | 2458 : 1 | 138349 |
| 128 : 1 | 138340 | 3027 : 1 | 138350 |
| 157 : 1 | 138341 | 3728 : 1 | 138351 |
| 370 : 1 | 138342 | 4592 : 1 | 138352 |

## Technical Data

|   |                                  |
|---|----------------------------------|
| Planetary Gearhead                                  | straight teeth                   |
| Output shaft  | stainless steel, hardened        |
| Bearing at output                                   | preloaded ball bearings          |
| Radial play, 6 mm from flange                       | max. 0.08 mm                     |
| Axial play at axial load                            | < 4 N 0 mm<br>> 4 N max. 0.05 mm |
| Max. permissible axial load                         | 8 N                              |
| Max. permissible force for press fits               | 25 N                             |
| Sense of rotation, drive to output                  | =                                |
| Recommended input speed                             | < 8000 rpm                       |
| Recommended temperature range                       | -15...+100°C                     |
| Extended range as option                            | -35...+100°C                     |
| Number of stages                                    | 1 2 3 4 5                        |
| Max. radial load, 6 mm from flange                  | 10 N 15 N 20 N 20 N 20 N         |
| Gearhead values according to sleeve bearing version |                                  |